

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (currently amended): ~~In producing~~ A metal foil production apparatus which produces metal foil by passing an electric current between a cylindrical cathode immersed in an electrolytic solution and an anode opposed to the cathode, continuously electrodepositing a metal layer on a surface of the cathode while rotating the cathode and thereafter peeling the metal layer off, a process for producing metal foil characterized in that said apparatus comprising an auxiliary anode capable of adjusting the current density when electrodeposition is started ~~[[is]]~~ disposed at one side of the cathode where an unelectrolyzed portion thereof is brought into the electrolytic solution, at a position downstream from the anode with respect to the direction of flow of the electrolytic solution, the auxiliary anode being an electrode having a coating layer comprising an electrode active substance containing a platinum group metal or a platinum group metal oxide, or a mixture of an oxide of a valve metal and a platinum group metal or a platinum group metal oxide and formed over an electrically conductive metal substrate comprising titanium or a titanium alloy, with an intermediate layer of tantalum or a tantalum alloy formed between the coating layer and the substrate,

wherein pulse current is passed from the auxiliary anode to the cathode to adjust the pulse

current density so that the pulse current density of the auxiliary anode is greater than that of the anode when electrodeposition is started.

Claim 2 (currently amended): ~~A process for producing~~ The metal foil production apparatus according to claim 1, wherein the metal foil is copper foil.

Claim 3 (currently amended): ~~A process for producing~~ The metal foil production apparatus according to claim 1, wherein the titanium alloy is an alloy selected from the group consisting of titanium-tantalum, titanium-tantalum-niobium and titanium-palladium, or a combination of at least two of these alloys.

Claim 4 (currently amended): ~~A process for producing~~ The metal foil production apparatus according to claim 1, wherein the intermediate layer is formed by sputtering, ion plating or vacuum evaporation.

Claim 5 (currently amended): ~~A process for producing~~ The metal foil production apparatus according to claim 1, wherein the tantalum alloy is a tantalum-niobium alloy and/or a tantalum-titanium alloy.

Claim 6 (currently amended): ~~A process for producing~~ The metal foil production

apparatus according to claim 1, wherein the intermediate layer is 1 to 10 μm in thickness.

Claim 7 (currently amended): ~~A process for producing~~ The metal foil production
apparatus according to claim 1, wherein the valve metal is selected from the group consisting of titanium, tantalum, niobium and zirconium, or is a combination of at least two of these metals.

Claim 8 (currently amended): ~~A process for producing~~ The metal foil production
apparatus according to claim 1, wherein the electrode active substance is a mixture selected from the group consisting of a mixture of iridium oxide and tantalum oxide, mixture of iridium oxide and titanium oxide, mixture of iridium oxide and ruthenium oxide, mixture of iridium oxide, ruthenium oxide and titanium oxide, mixture of ruthenium oxide and titanium oxide, and mixture of ruthenium oxide and tantalum oxide, or a combination of at least two of these mixtures.

Claim 9 (currently amended): ~~A process for producing~~ The metal foil production
apparatus according to claim 1, wherein the electrode active substance contains a mixture of 60 to 95 wt. % of iridium oxide calculated as metallic iridium and 5 to 40 wt. % of tantalum oxide calculated as metallic tantalum.

Claim 10 (currently amended): ~~A process for producing~~ The metal foil production
apparatus according to claim 1, wherein the electrode active substance contains a mixture of 70

to 95 wt. % of iridium oxide calculated as metallic iridium and 5 to 30 wt. % of tantalum oxide calculated as metallic tantalum.

Claim 11 (currently amended): ~~A process for producing~~ The metal foil production apparatus according to claim 1, wherein the coating layer is formed by thermal decomposition, electrochemical oxidation or powder sintering.

Claim 12 (currently amended): ~~A process for producing~~ The metal foil production apparatus according to claim 1, wherein the coating layer is 1 to 50 μm in thickness.

Claim 13 (new): A process for producing metal foil, including a metal foil production apparatus having a cylindrical cathode immersed in an electrolytic solution, an anode opposed to the cathode, and an auxiliary anode, the process comprising the steps of:

passing an electric current between the cathode and the anode;

continuously electrodepositing a metal layer on a surface of the cathode while rotating the cathode and thereafter peeling the metal layer off;

disposing the auxiliary anode, which is capable of adjusting a current density when electrodeposition is started, at one side of the cathode where an unelectrolyzed portion thereof is brought into the electrolytic solution, at a position downstream of the anode with respect to the direction of flow of the electrolytic solution, the auxiliary anode being an electrode having a

coating layer comprising an electrode active substance containing a platinum group metal or a platinum group metal oxide, or a mixture of an oxide of a valve metal and a platinum group metal or a platinum group metal oxide and formed over an electrically conductive metal substance comprising titanium or a titanium alloy, with an intermediate layer of tantalum or a tantalum alloy formed between the coating layer and the substrate; and

passing pulse current from the auxiliary anode to the cathode to adjust the pulse current density so that the pulse current density of the auxiliary anode is greater than that of the anode when electrodeposition is started.

Claim 14 (new): A process for producing metal foil according to claim 13, wherein the metal foil is copper foil.

Claim 15 (new): A process for producing metal foil according to claim 13, wherein the titanium alloy is an alloy selected from the group consisting of titanium-tantalum, titanium-tantalum-niobium and titanium-palladium, or a combination of at least two of these alloys.

Claim 16 (new): A process for producing metal foil according to claim 13, wherein the tantalum alloy is a tantalum-niobium alloy and/or a tantalum-titanium alloy.

Claim 17 (new): A process for producing metal foil according to claim 13, wherein the

electrode active substance is a mixture selected from the group consisting of a mixture of iridium oxide and tantalum oxide, mixture of iridium oxide and titanium oxide, mixture of iridium oxide and ruthenium oxide, mixture of iridium oxide, ruthenium oxide and titanium oxide, mixture of ruthenium oxide and titanium oxide, and mixture of ruthenium oxide and tantalum oxide, or a combination of at least two of these mixtures.